

Fig. 1a

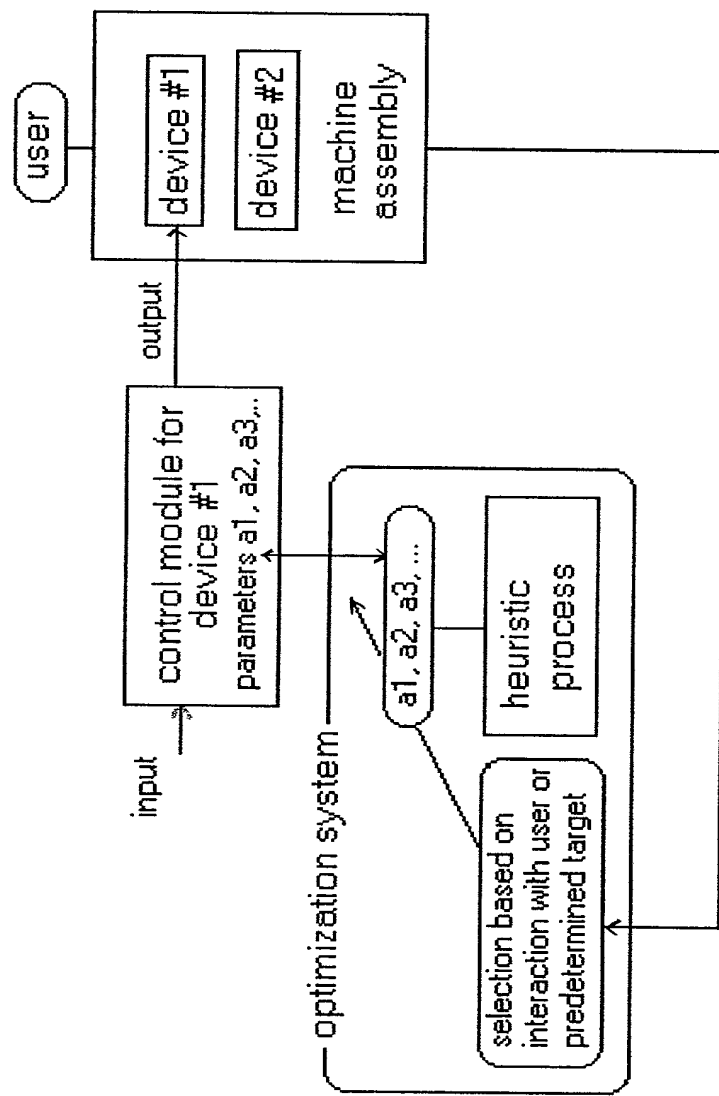


Fig. 1b

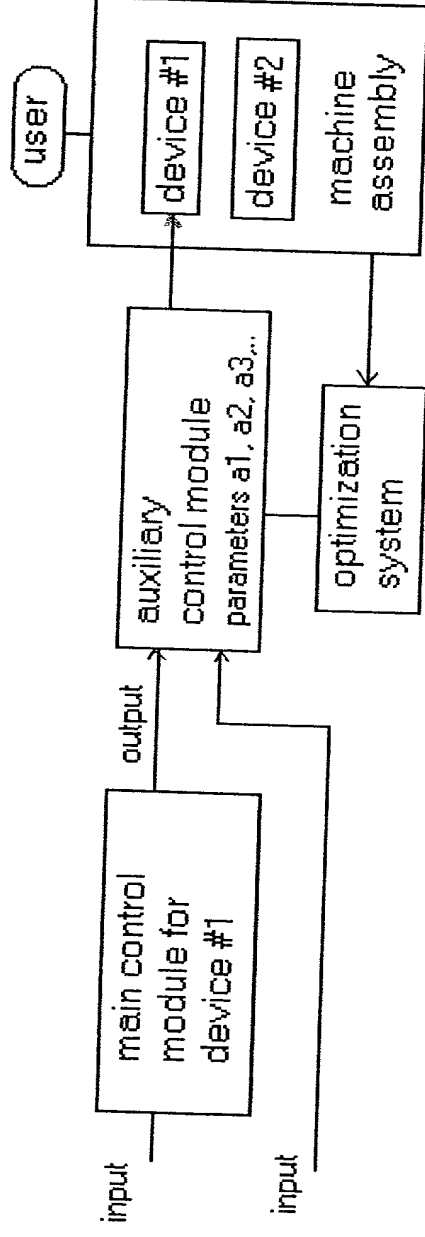


Fig. 1c

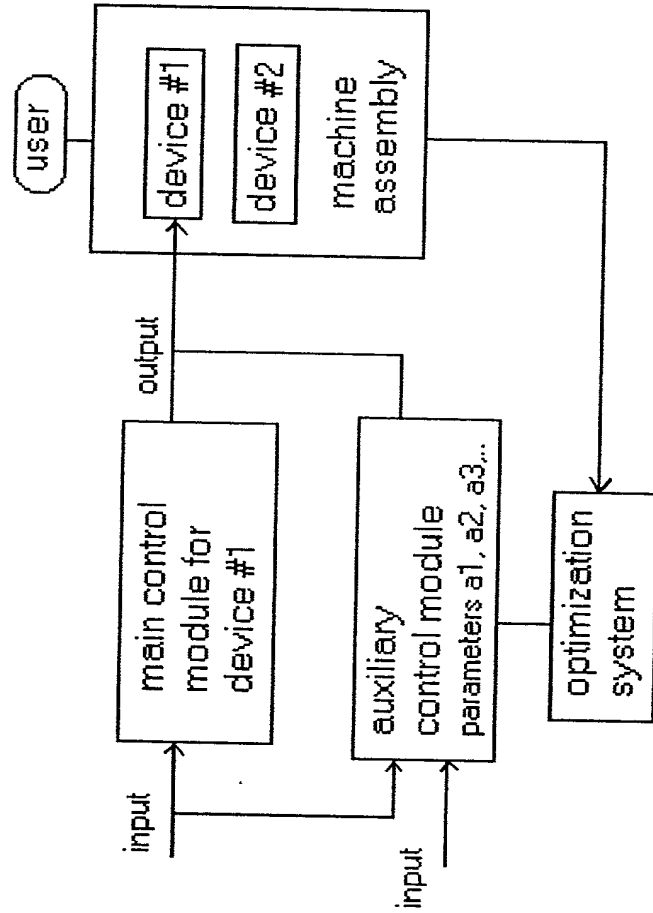


Fig. 1d

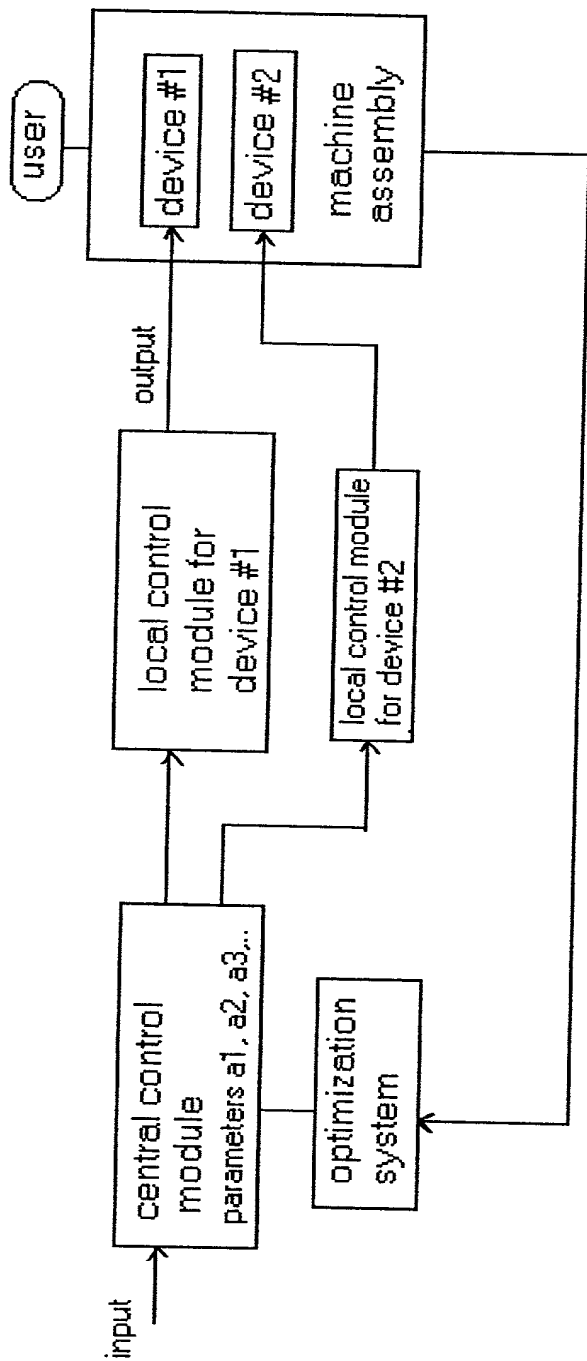
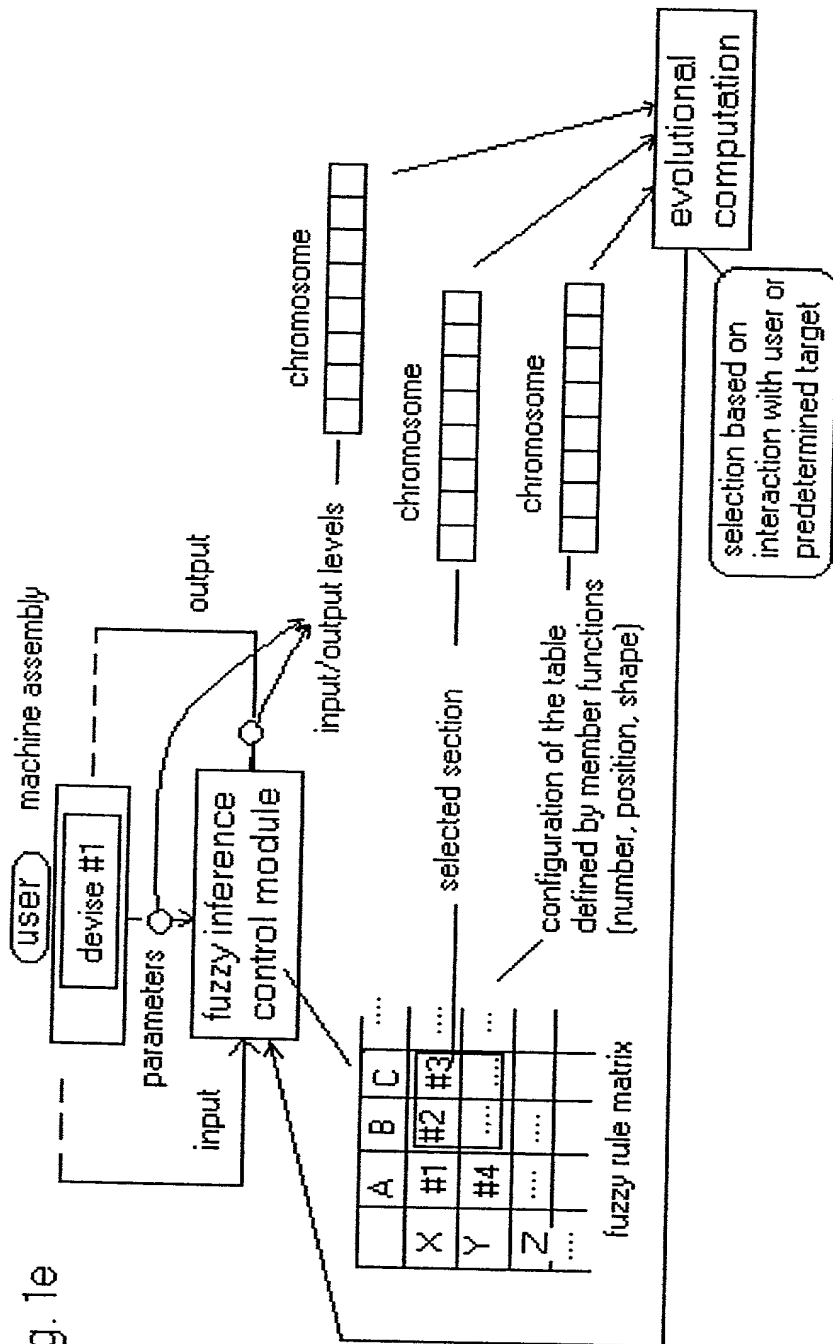


Fig. 1e



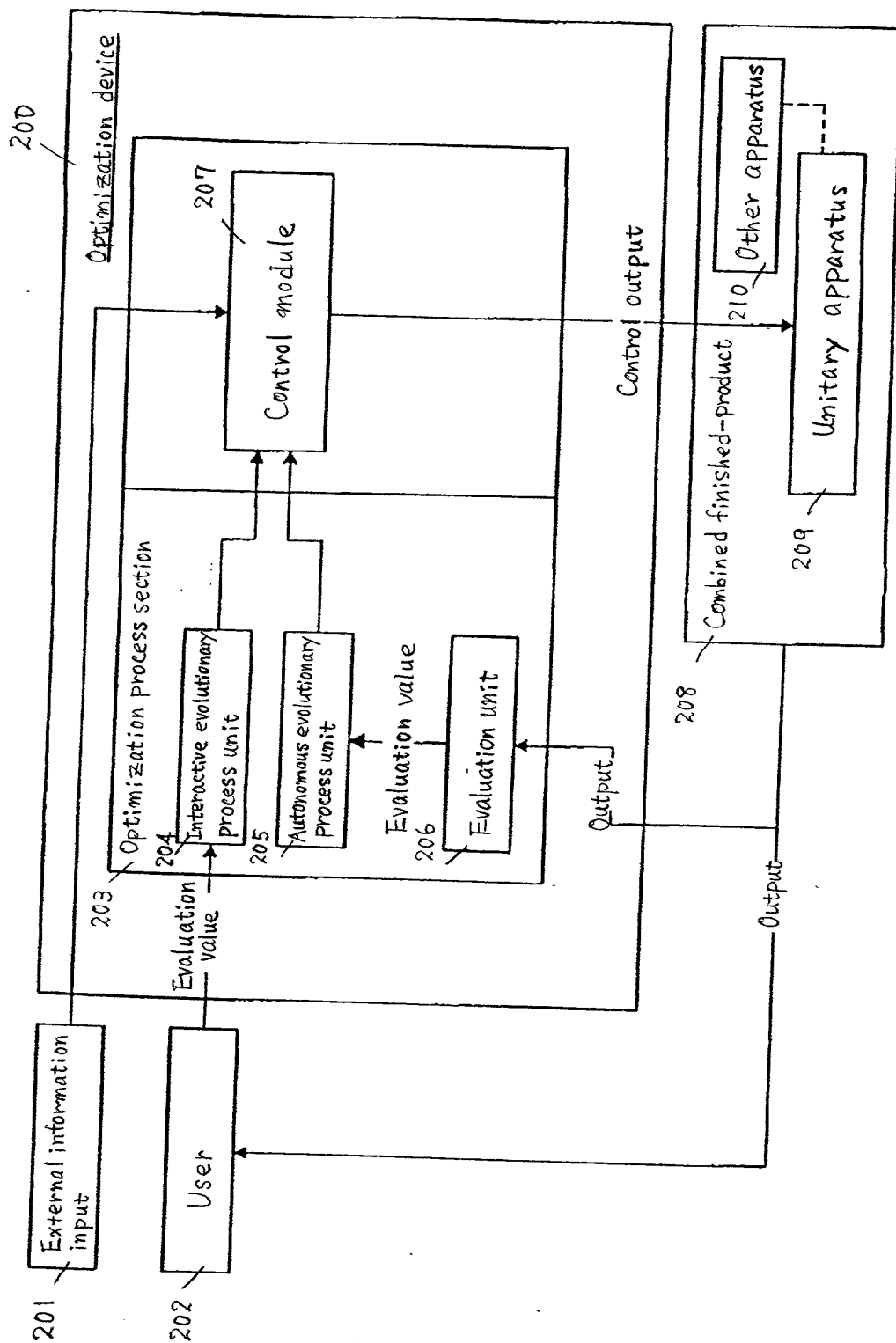


FIG. 2

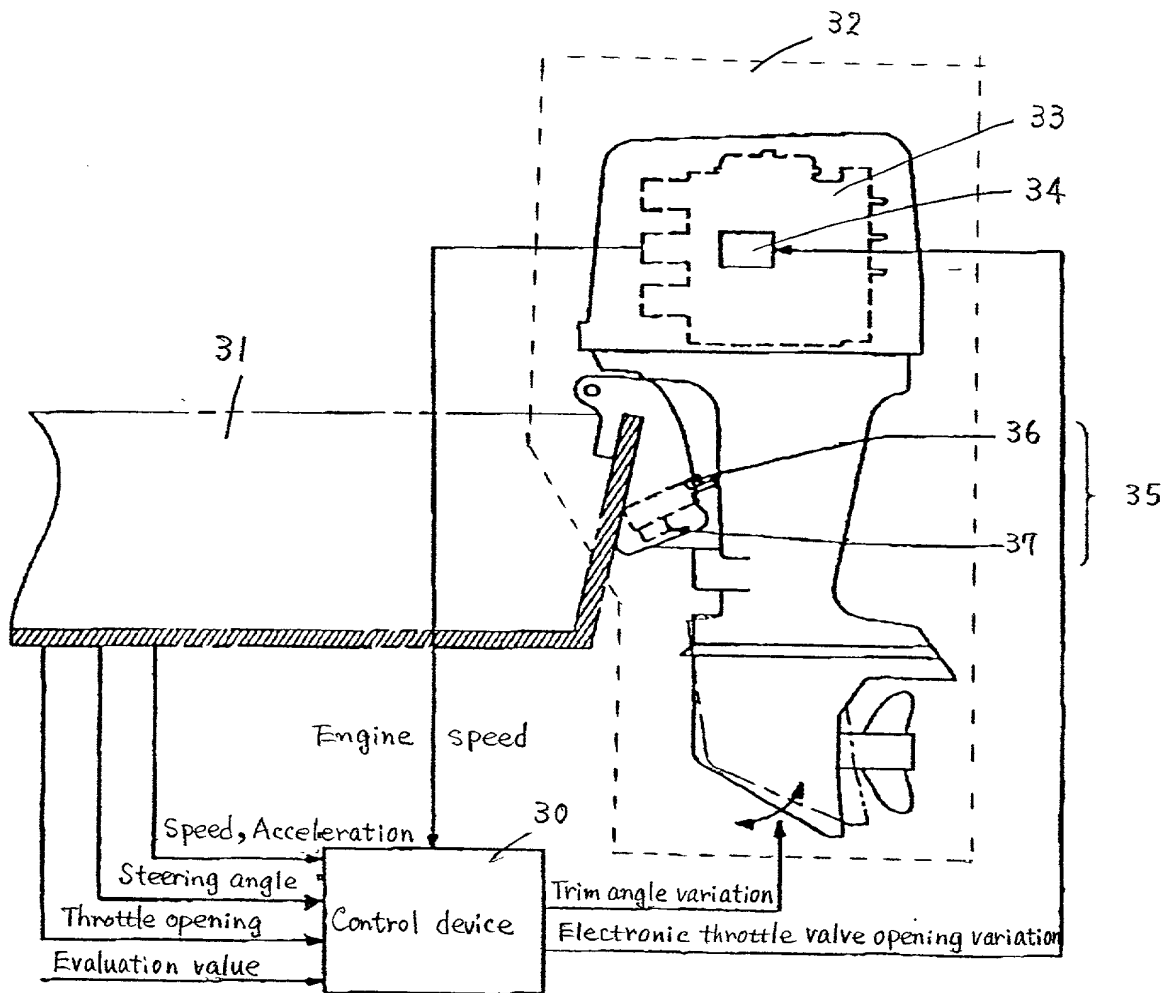


FIG. 3

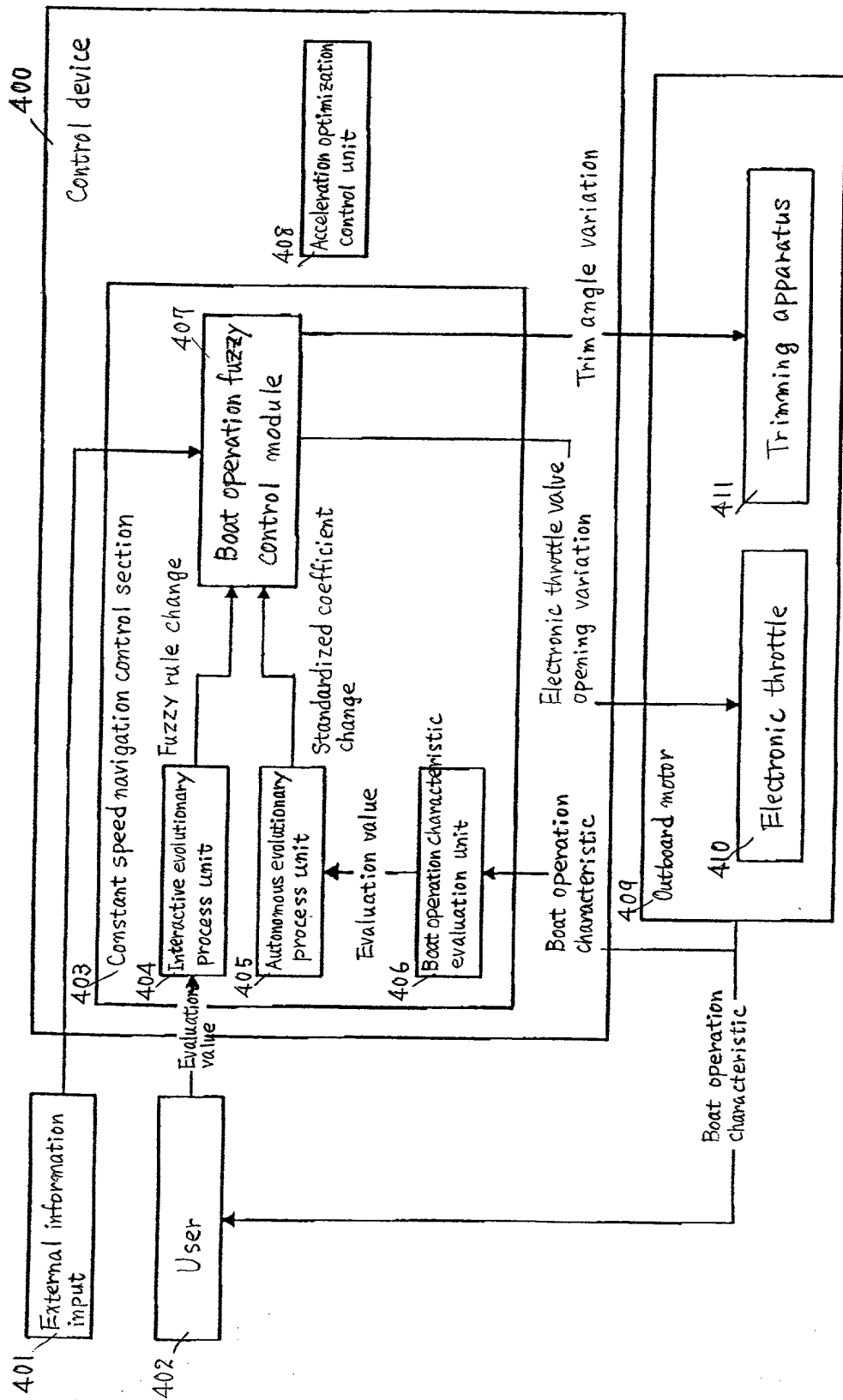


FIG. 4

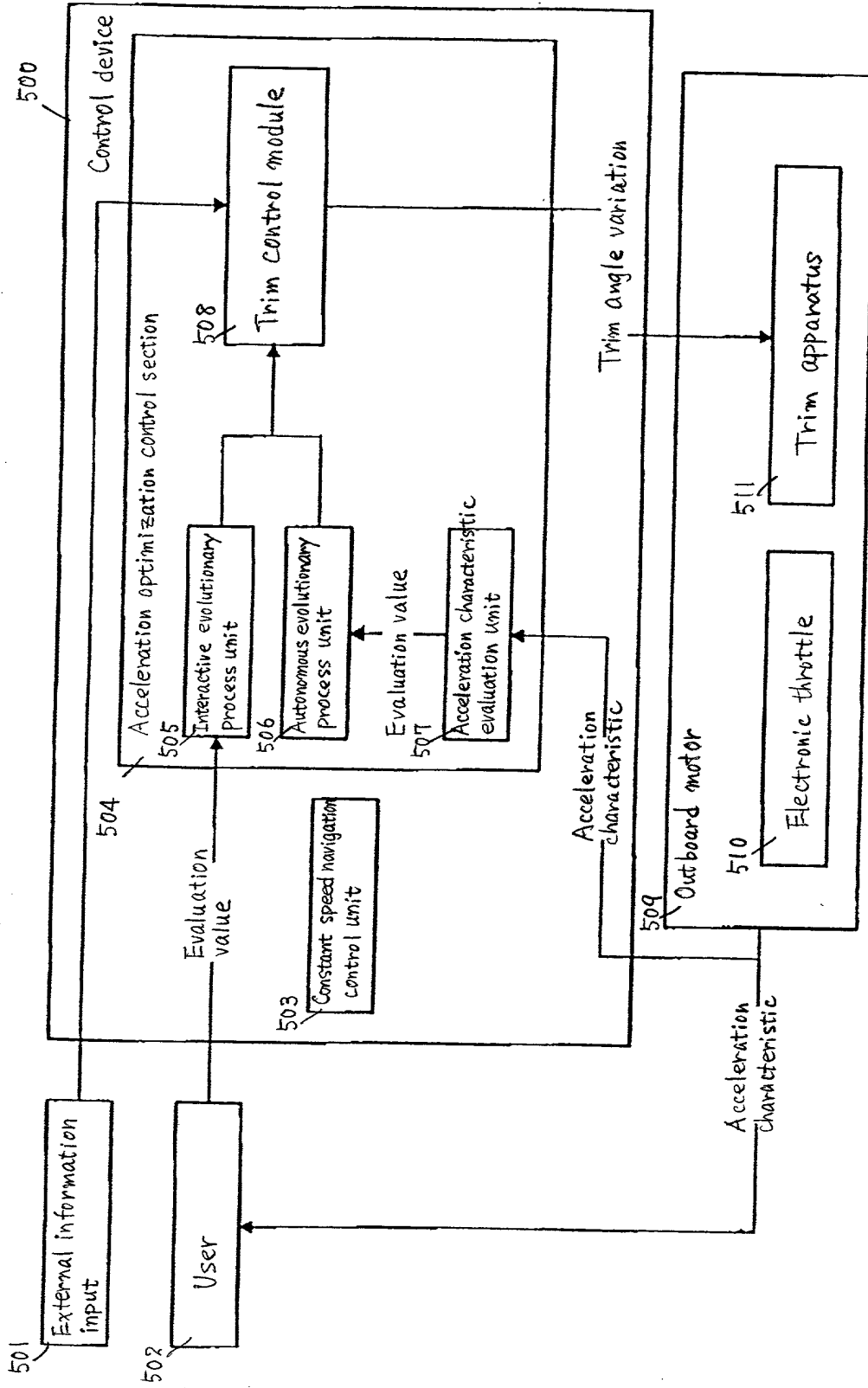


FIG. 5

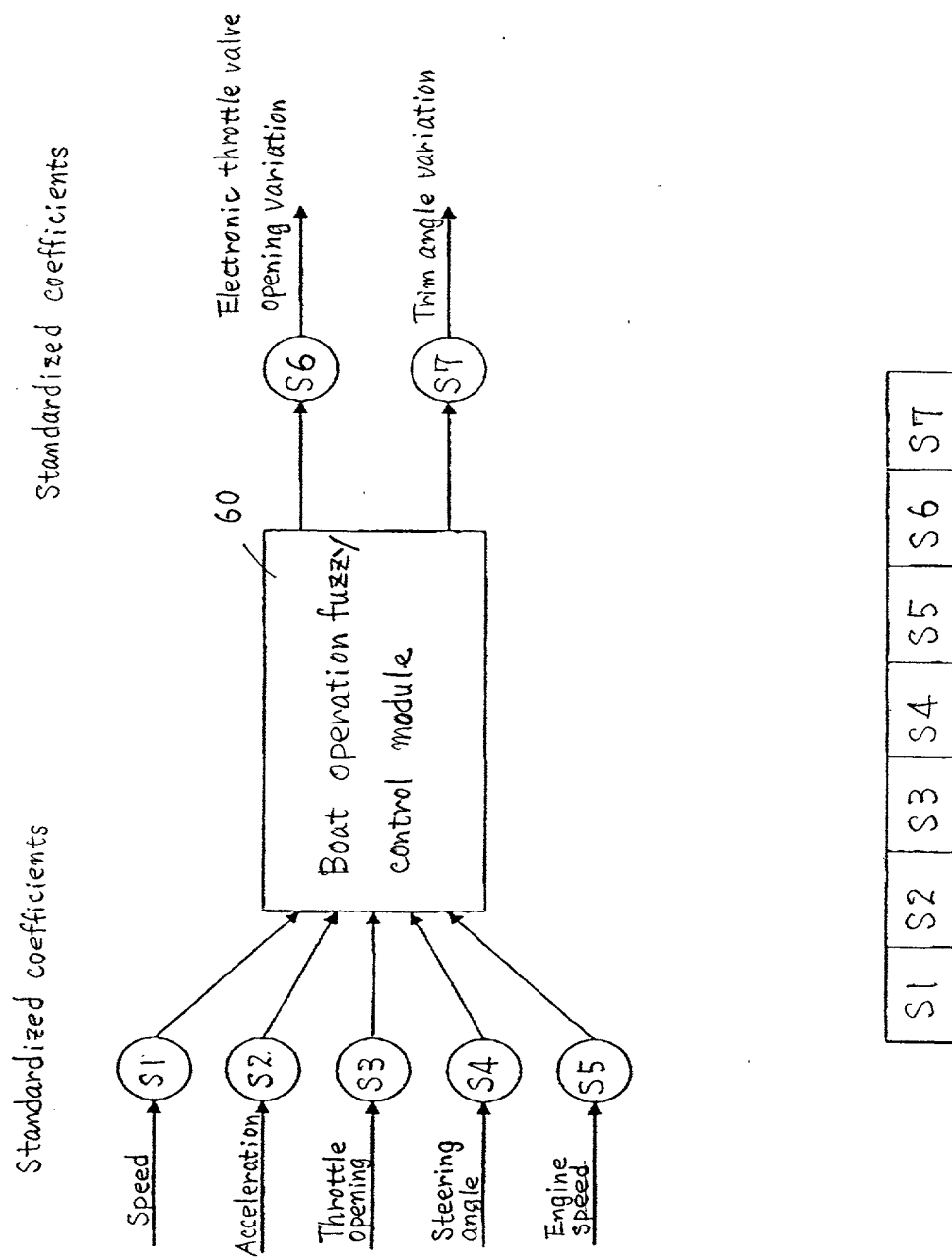


FIG. 6

Speed

	FAST	MID	SLOW
PL	-10°	-5°	-1°
PS	-5°	-1°	0°
ZR	-1°	0°	+1°
NS	0°	+1°	+5°
NL	+1°	+5°	+10°

Acceleration

Extraction →

①	②	③	④
0°	+1°	+1°	+5°

Perturbation with
normalized random
numbers added

+0. 5°	+1. 3°	+0. 4°	+6. 1°
--------	--------	--------	--------

-0. 3°	+1. 4°	+2. 0°	+4. 9°
--------	--------	--------	--------

+0. 9°	+0. 6°	+1. 5°	+5. 2°
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Fuzzy rule table

input: Speed, Acceleration
output: Electronic throttle valve
opening variable

FIG. 7

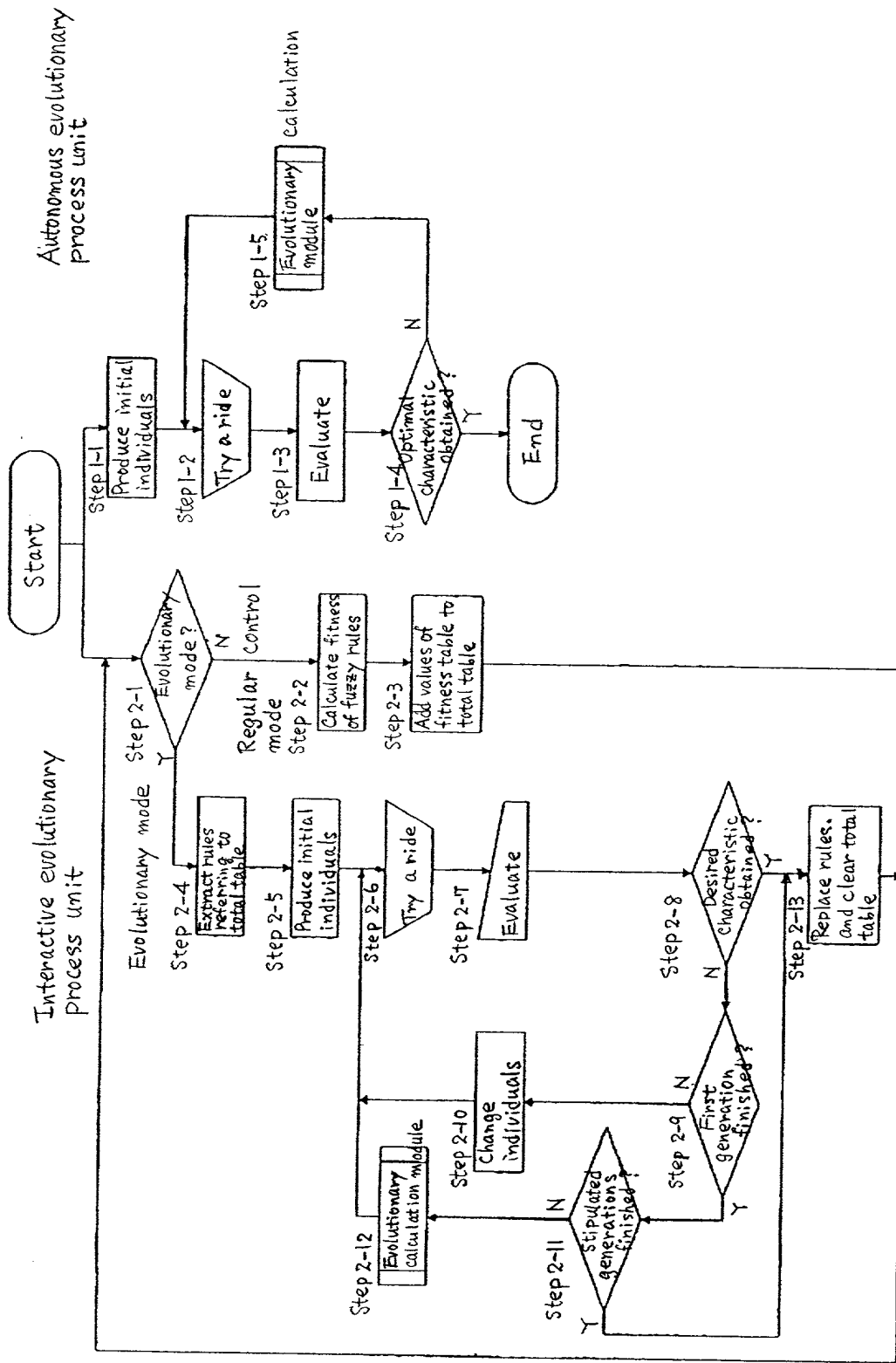


FIG. 8

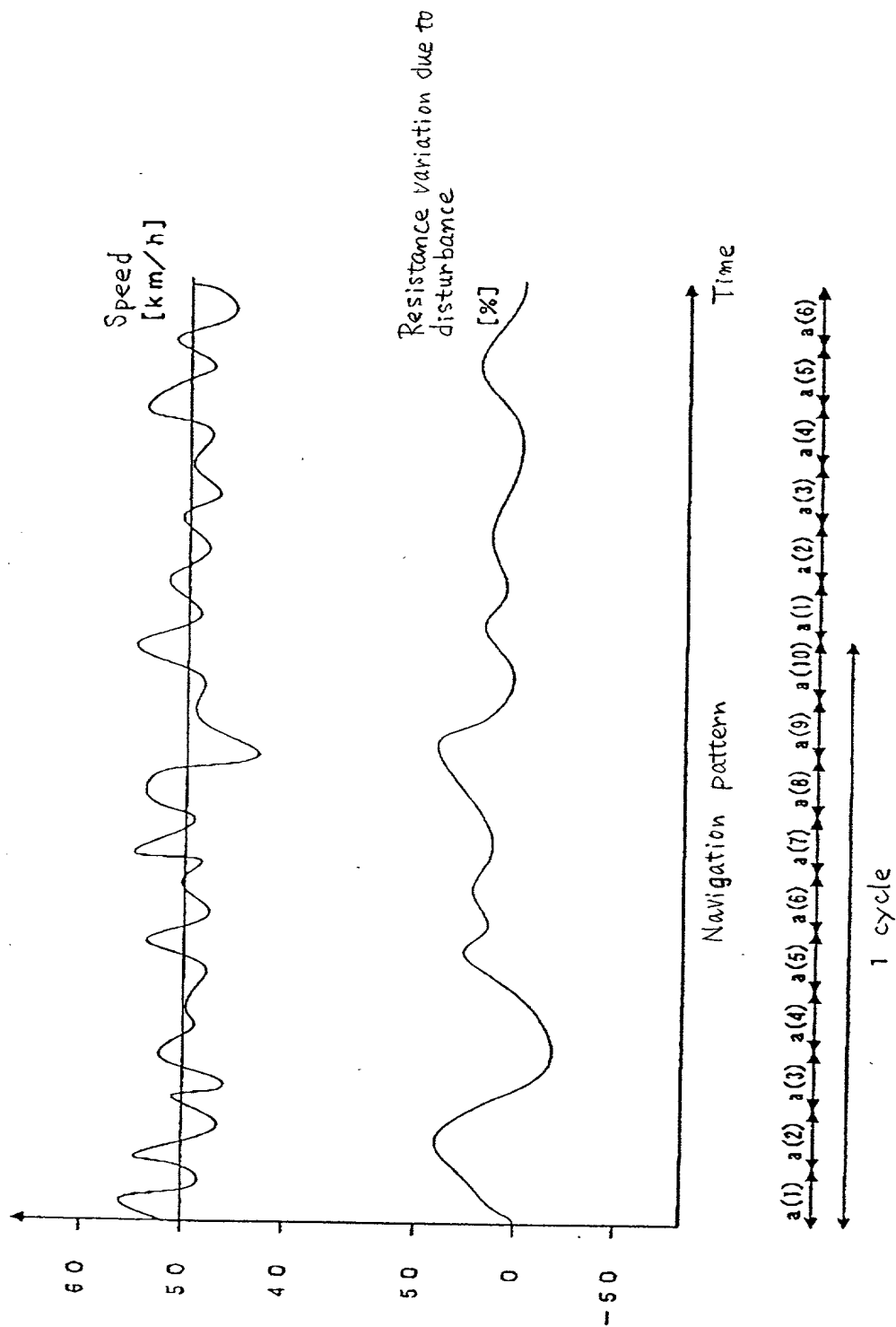


FIG. 9

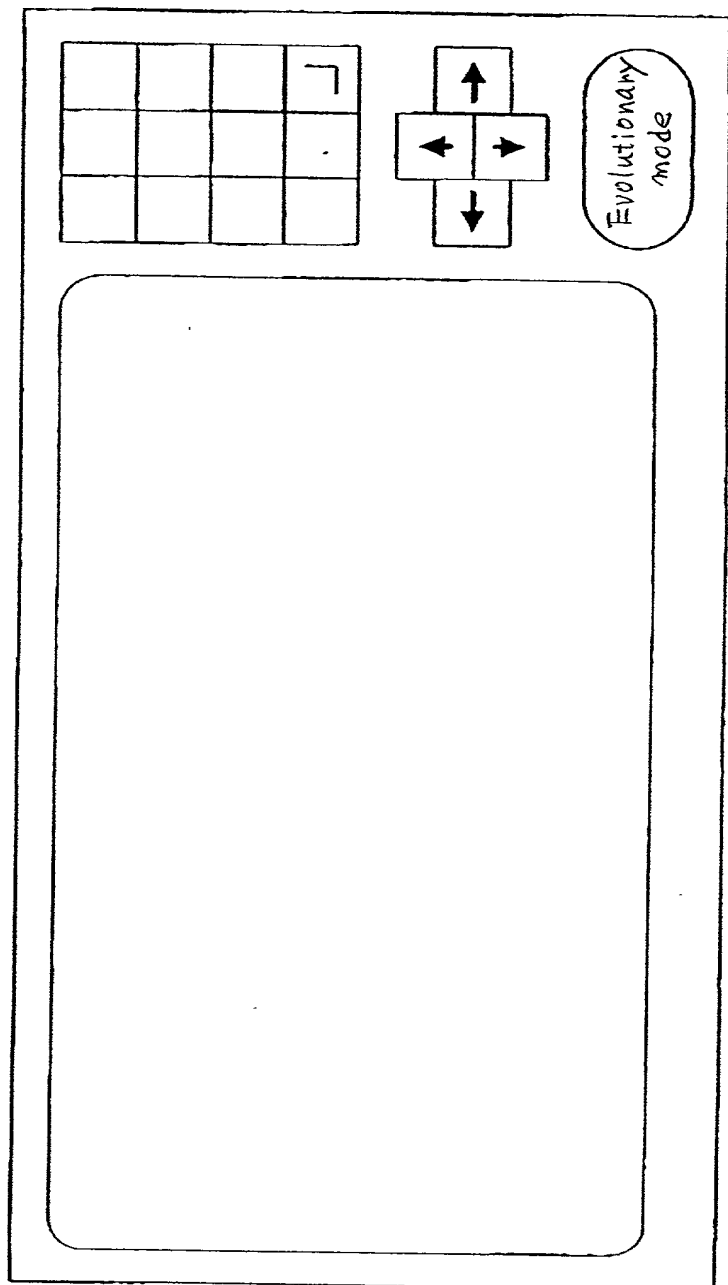


FIG. 10

[illegible]

The diagram illustrates the process of combining Speed and Acceleration components to form a Total table. It consists of three main tables and a central operation arrow.

Speed Table:

	FAST	MID	SLOW
PL			
PS			
ZR			
NS			
NL			

Acceleration Table:

	FAST	MID	SLOW
PL	0.02	1.87	0.27
PS	4.96	8.39	3.72
ZR	12.61	86.42	35.48
NS	9.55	49.75	22.37
NL	8.96	18.19	2.44

Operation: An arrow labeled "Add" points from the Speed table to the Acceleration table, indicating that the values are summed.

Total table:

	FAST	MID	SLOW
PL	0.02	1.87	0.27
PS	4.96	8.39	3.72
ZR	12.61	86.42	35.48
NS	9.55	49.75	22.37
NL	8.96	18.19	2.44

Labels: The word "Speed" is written vertically to the left of the Speed table, and "Acceleration" is written vertically to the left of the Acceleration table. The word "Total table" is written vertically to the right of the Total table.

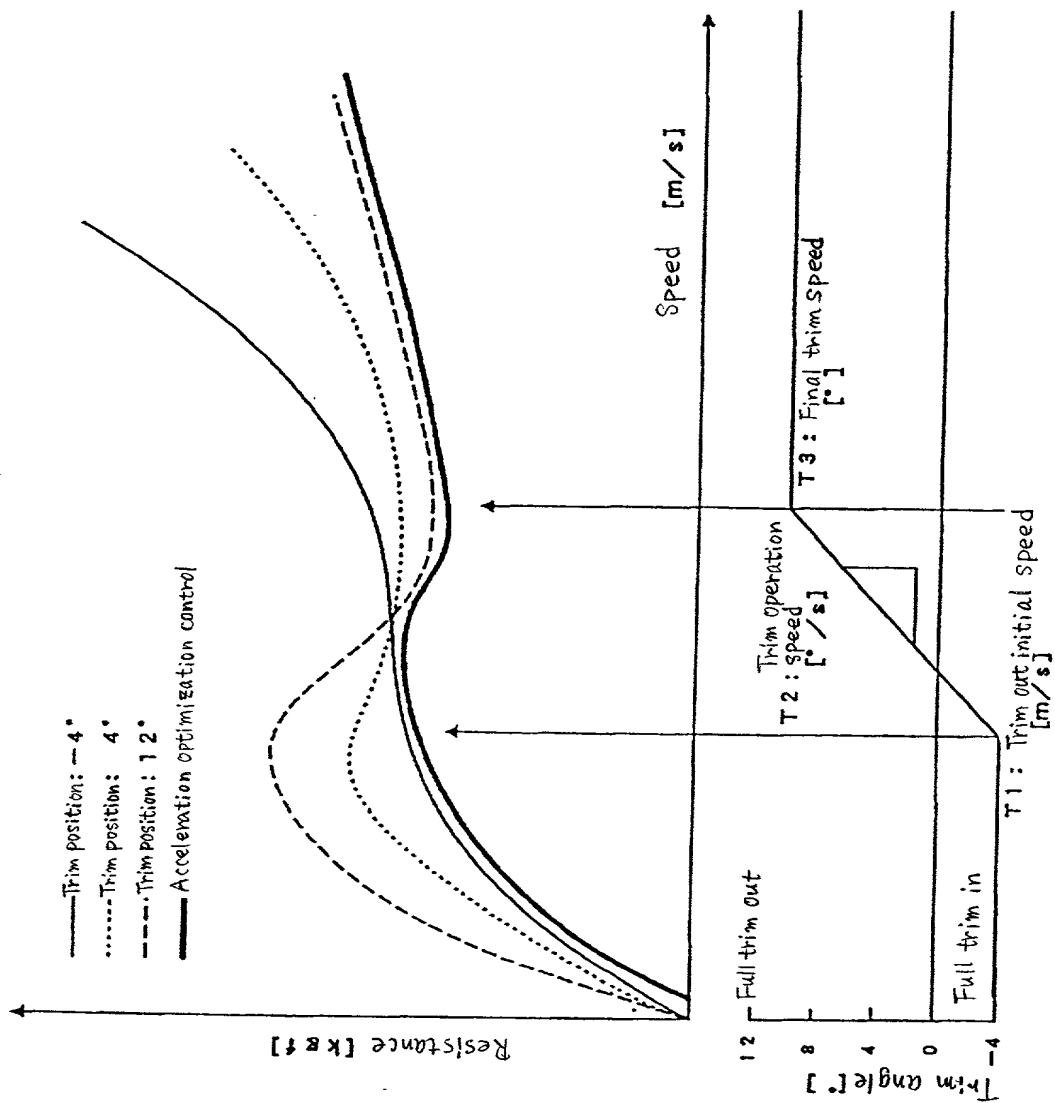


FIG. 12

T1	T2	T3
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FIG. 13

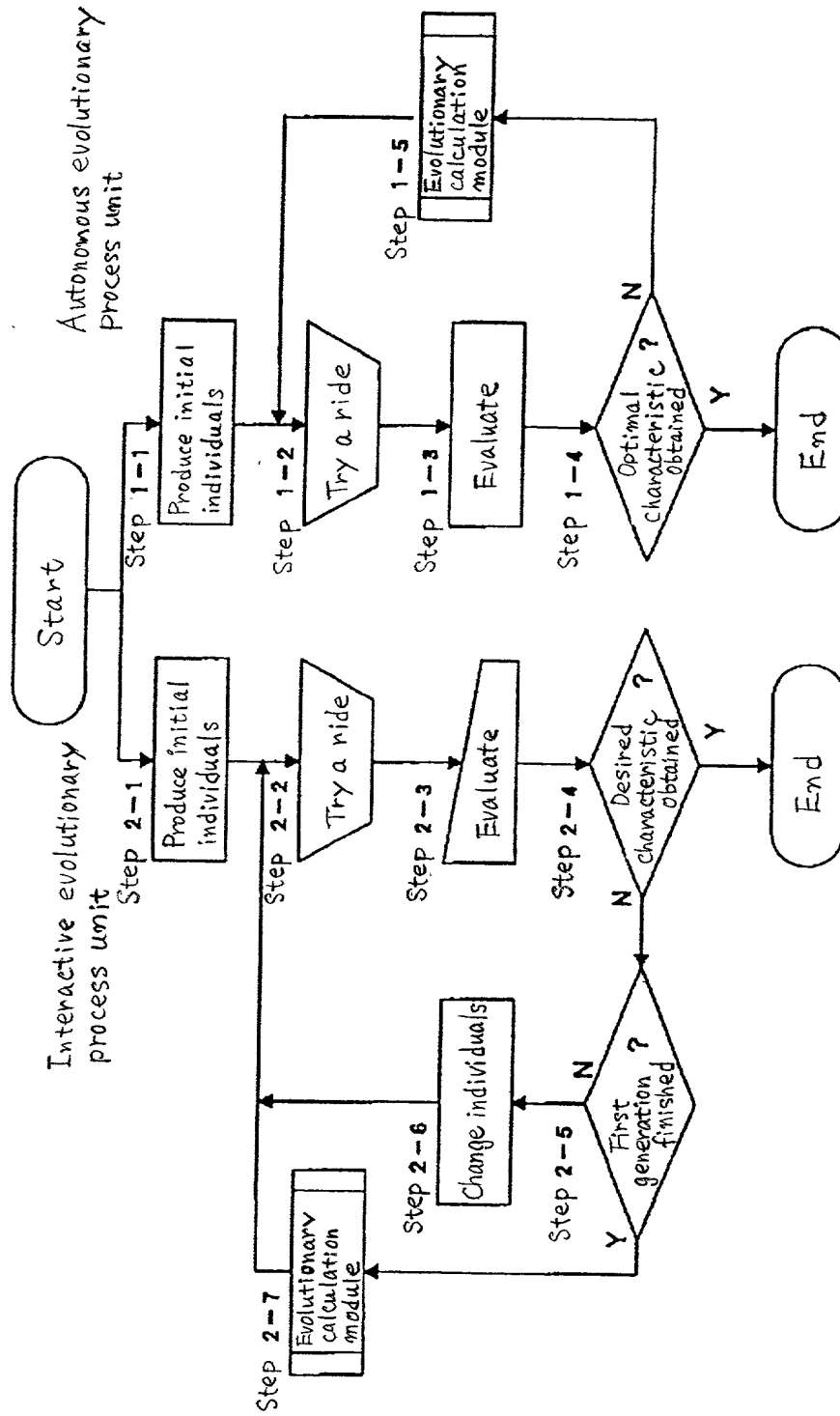


FIG. 14

Evolutionary computation module (GA)

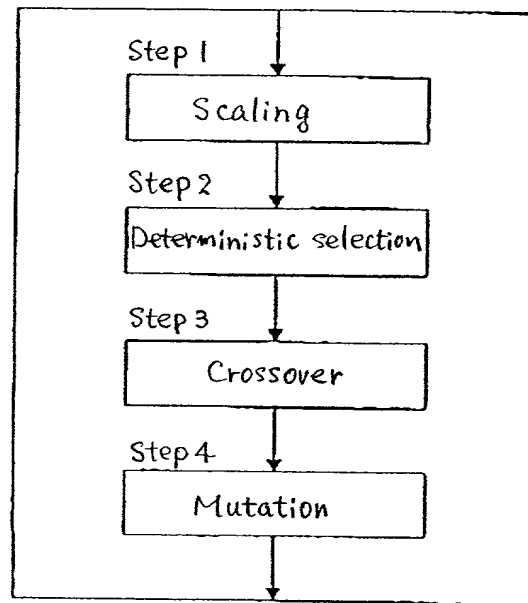


FIG. 15

Evolutionary computation module (ES)

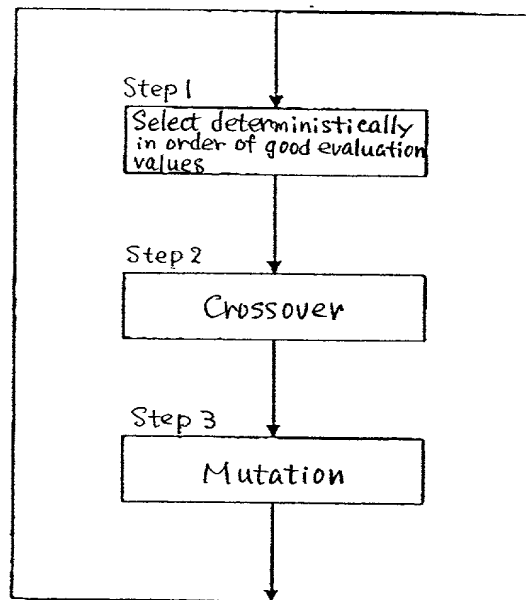


FIG. 16

Evolutionary Computation module (EP)

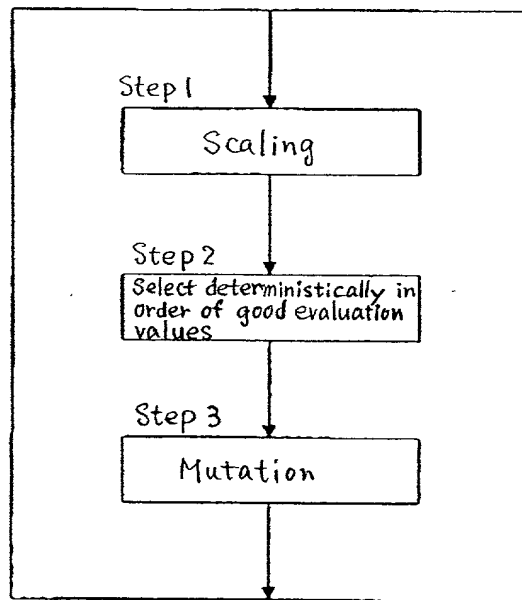


FIG. 17

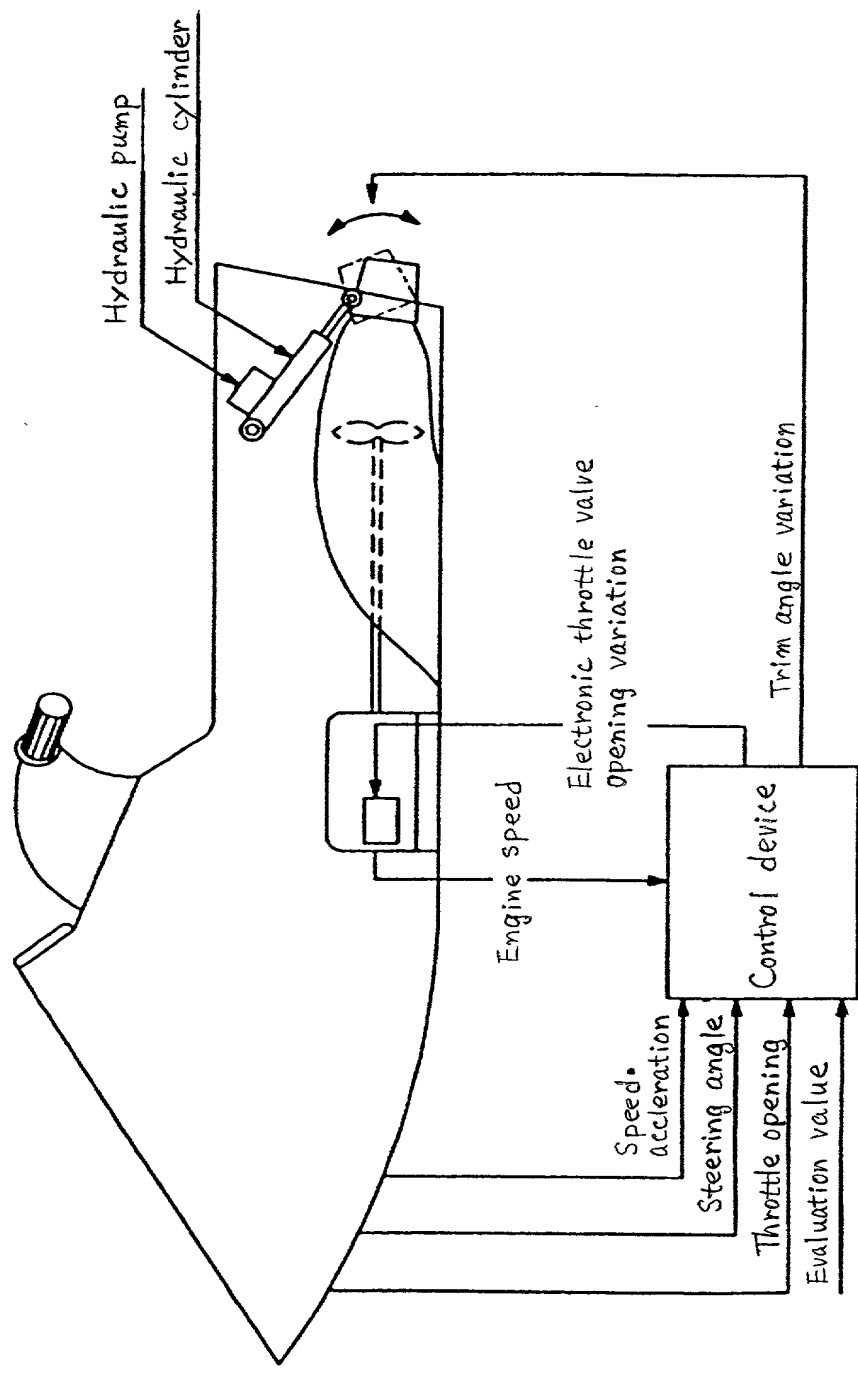


FIG. 18

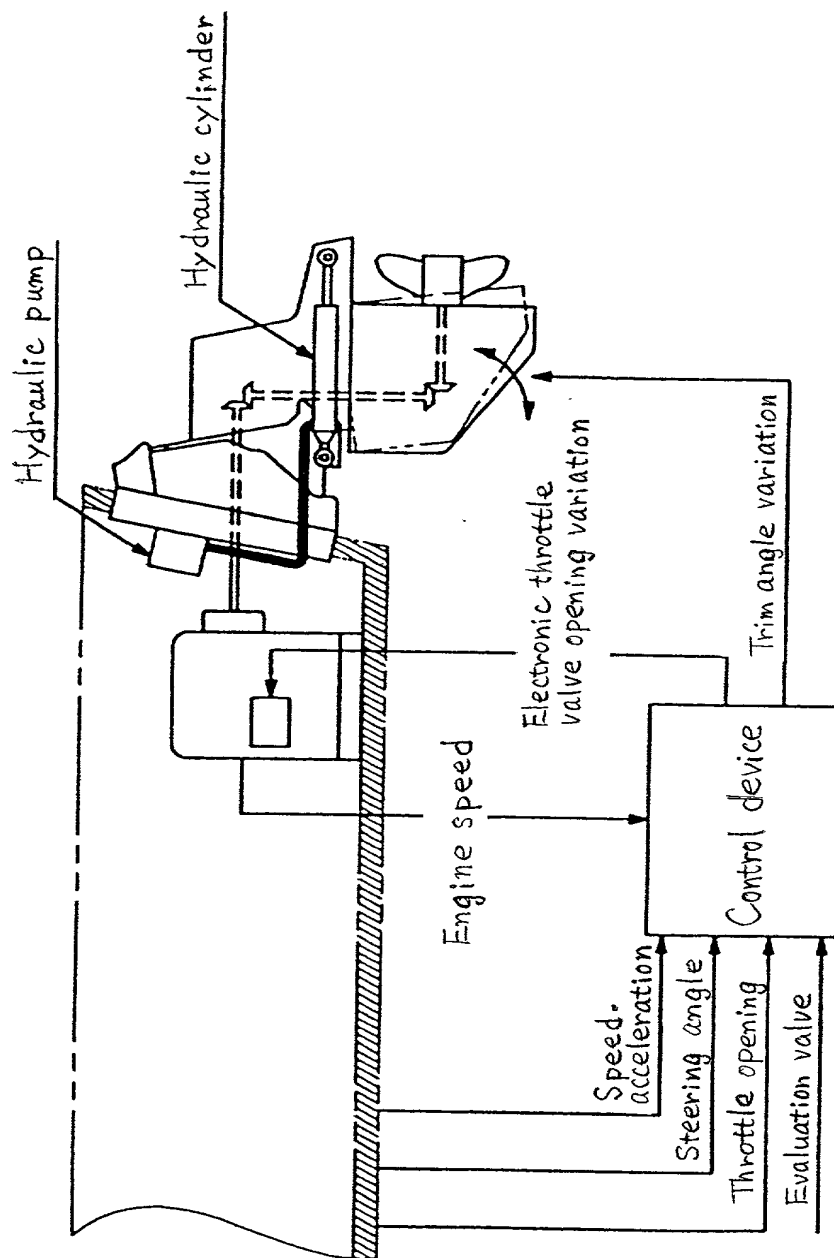
[illegible]

FIG. 19

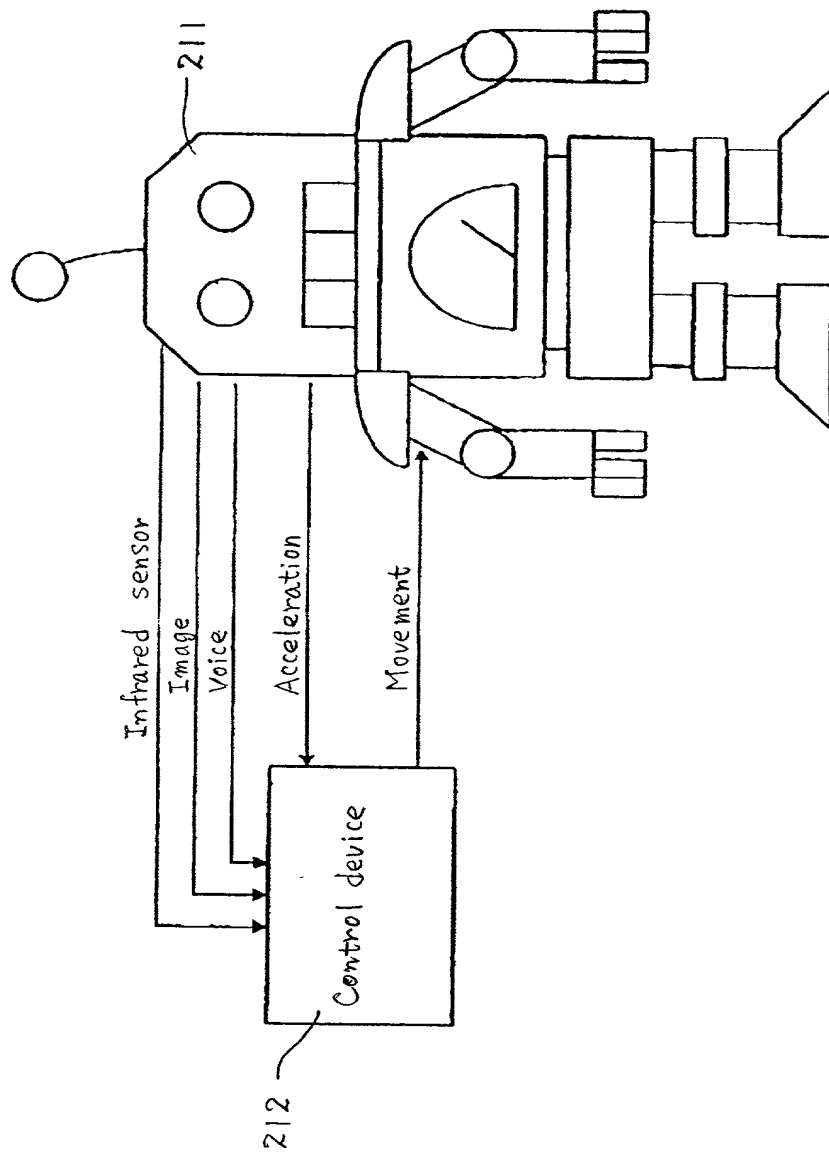


FIG. 21

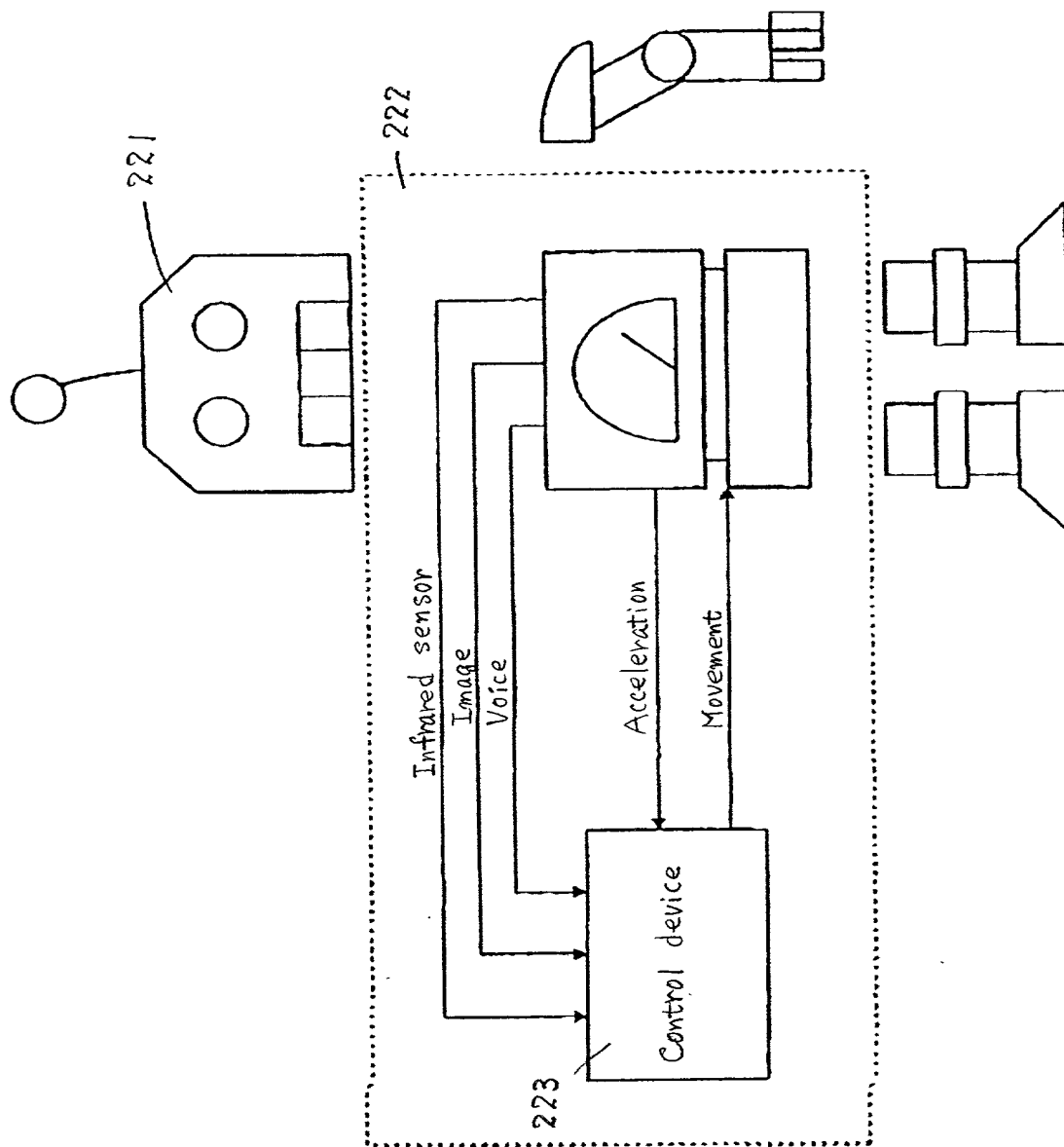


FIG. 22

FIG. 23